REMARKS

Claims 1-3 and 8-11 are pending in the application. Claims 1-3 are allowed. Claims 8-11 are rejected. Claim 8 is amended.

Priority

The Examiner comments that the application lacks the necessary reference to a prior application and suggests this statement. Applicant has amended the specification to have the application read "This is a Divisional of Reissue Appln. No. 09/638,796, filed August 11, 2000."

Double Patenting

Claims 1-3 and 8-11 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4-7 and 12-17 of copending Appln. No. 09/638,796. The Examiner admits that the conflicting claims are not identical, but finds them not to be patentably distinct from each other because they are directed to "the same albeit reversed procedures to encode and decode image data respectively." The Examiner further points to the fact that both encoding and decoding were claimed in the original patent 5,793,897.

Applicant has filed herewith a Terminal Disclaimer, as recommended by the Examiner.

Recapture of Inventions

Claims 8-11 are rejected under 35 U.S.C. § 251 as involving an improper recapture of broadened claim subject matter that had been surrendered in USSN 495,591 (the '591 Application), the application that matured into US Patent No. 5,793,897, the patent upon which the present reissue application is based.

In framing his rejection, the Examiner points to the "zigzag scanning," the "different patterns for regular and escape regions," and the "selecting according to intra/inter mode of the currently processed block limitations" as a basis for concluding that the Applicant had surrendered the present claimed subject matter during prosecution of the parent '591 Application.

The relevant law governing the principle of "recapture" is stated in MPEP §1412.02. On the basis of the decision of the Federal Circuit in the case of *In re Clement*, 45 USPQ2d 1161, 1164 (Fed. Cir. 1997), there is a two-step test for recapture. In the first step, a determination is made as to whether and in which "aspect" the reissue claim is broader than the patented claim. In the second step, a determination is made of whether the broader aspects relate to surrendered subject matter. In its decision, the Court held "to determine whether an applicant surrendered particular subject matter, we look to the prosecution history for arguments and changes to the claims made in an effort to overcome a prior art rejection."

The USPTO Board of Appeals and Interferences, in its recent precedential decision *Ex parte Eggert*,(App. No. 2001 decided May 29, 2003), provided a comprehensive review of the law of recapture and concluded that an attempt by the Examiner to bar the applicant from obtaining broader claims, simply because of prior amendments and arguments in the original case, must fail. The Board found that the claims were broader only in aspects unrelated to the rejection in the original patent. The analysis by the Board as to what was related to the rejection, and the Board's refusal to adopt a *per se* rule as proposed by the Examiner, demonstrates that careful analysis of the facts in each case is needed, consistent with the approach taken by the Supreme Court in its *Festo* decision (62 USPQ 1705, 1713 (S.Ct. 2002)).

The Board, after using the two steps identified by the Federal Circuit in its *Clement* decision and finding that the claims were broadened in certain aspects related to patentability, proceeded to a third step. This was characterized as "a next state in the inquiry," wherein the rejected reissue claims are compared to the surrendered subject matter to determine in what aspects the reissue claims are broader than the surrendered subject matter and in what aspect the reissue claims are narrower than the surrendered subject matter. In this step, the court concluded that certain omitted limitations "clearly relate to features that were not argued by appellants as distinguishing over the applied prior art." (emphasis added)

The Board concluded that, "in accordance with the principles set forth in *Clement* (45 USPQ2d at 1165), the recapture rule does not bar reissue claims in this case." The Board went on to state that

> The prosecution history of the patent application in this case does not persuade us that appellants surrendered anything narrower than the subject matter of claim 1 prior to the amendment after final adding the limitation "said retaining member being generally bowl-shaped and convex toward said magnet" (citing *Festo*, at 1711). Finally, as recognized by *Festo* (cite to pages 1712-13), claim drafting is an imperfect art. While a narrowing amendment may demonstrate what the claim is not, it may still fail to capture precisely what the claim is (cite to *Festo* at page 1712). Moreover, an amendment does not show that an applicant suddenly had more foresight in the drafting of claims than an applicant whose application was granted without amendments having been submitted *Id*. In this case, it appears to us that appellants made an error in limiting the shape of the retaining member more narrowly than was required to overcome the prior art rejection, thereby claiming less than he had a right to claim in the patent, and , in our view, this is the type of error which n be corrected by reissue under 35 U.S.C. § 251. To hold otherwise would controvert the remedial nature of the statute. (emphasis added)

These same principles, with a focus on precisely what was given up, and whether the remedial nature of the statute permits the applicant to obtain the coverage desired, would support allowance of the present claims with regard to the three areas that were broadened by the Applicants.

Zigzag Scanning

The Examiner notes that pending claims 8-11 do not recite "zig-zag scanning" but, instead, recite scanning "in a predetermined pattern." The original reference to "zig-zag scanning" was deleted from the corresponding issued claim 1 in preparing claim 8.

The Examiner takes the position that "zig-zag scanning" was surrendered during prosecution because of the Applicant's arguments in referring to this feature to distinguish over the cited patent to Keith. The Examiner concludes that "zig-zag scanning" was surrendered due to Applicant's arguments relating to patentability, and cannot be broadened.

The Examiner also notes that the original claim language of "selecting a variable length coding table according to a zig-zag scanning position" also has been amended to recite only selection according to "scanning position". "Zig-zag scanning" is deleted.

The Examiner points to arguments made with regard to claims 3 and 7 for the variable length coding table, selected according to the "zig-zag scanning position," and asserts that this was argued as a basis for patentability.

Thus, the Examiner finds that the preamble portion of original claim 1 relating to zig-zag scanning cannot be broadened because such subject matter was surrendered.

Applicant has changed the phrase "predetermined pattern" back to "zig-zag scanning" in claim 8. Thus, this basis for rejection is rendered moot.

Different Patterns for Regular and Escape Regions

The Examiner notes that issued claim 1 recites the "setting" of variable length coding tables "having different patterns of a regular region and an escape region." By contrast, claim 8 only recites "setting a plurality of variable length coding tables." No reference to "different regions" is made.

The Examiner asserts that the "different patterns of a regular region and an escape region" was surrendered on the basis of an argument made in an Amendment (July 24, 1997) to emphasize patentable features of the claims, specifically at page 5 and 7, as quoted by the Examiner. The Examiner also refers to the original language in the "selecting" step of claim 1 that requires "a selecting range with different patterns" and notes that the present claim merely recites "selecting one of said plurality of variable length coding tables." No reference is made to tables having different patterns of regular and escape regions. The Examiner finds that there was an amendment to claim 1 that added subject matter related to a plurality of variable length coding tables having different patterns of a regular region and an escape region. Thus, the Examiner finds that this also has been surrendered.

Different Pattern for Regular and Escape Regions

As the record clearly indicates, the characteristics of the VLC tables, having regular and escape regions, were not needed in order to overcome the prior art. As the Examiner indicated in the telephone interview with the applicant, the feature of a plurality of tables already distinguishes the present invention over the prior art (when combined with other elements of Claim 1). The feature argued for in the applicant's response is indeed a plurality of tables. Applicant respectfully submits that the feature of "having different patterns,.." was nothing more than an explanation of the tables, which was not needed to overcome the prior art and not intended to be the distinguishing feature. In this regard, the Examiner is respectfully requested to note that the Applicants' comments included underlining for emphasis as to the distinctive feature, and that the underline was only of only "a plurality of VLC tables." There was no underlining of the phrase "having different patterns...".

During the prosecution of the parent application, the limitation of Claim 2 was incorporated into Claim 1 in the Amendment filed on September 2, 1997 in order to provide clarity to the claim and not to overcome the prior art. In other words. The feature of "... having different patterns..." already existed in Claim 1 and thus the Applicants did not add this limitation to Claim 1. Moreover, the Applicants did not add such a feature in order to overcome the prior art rejection. As the Examiner indicated, "a plurality of tables" feature was enough to distinguish the present invention over the prior art. That is, Claim 2 was incorporated into Claim 1 in order to satisfy the Examiner's concern over whether Claim 1 indeed recites this "a plurality of tables" feature, and not to distinguish over the prior art. Finally, the precise limitation did exist in claim 2 and, as such, this feature clearly is in the claim as originally presented. The numbering of the claims in this regard is inconsequential.

On the basis of the recent opinion of the Board in *In re Eggert*, it is clear from the prosecution history that Applicant did not amend or argue the different patterns for regular and escape reasons to overcome the prior art. Another adequate basis existed. Thus, this feature was not surrendered by the Applicants, and certainly was not surrendered for purposes of patentability. Accordingly, as to this feature, the claim is broader only in aspects unrelated to the rejection in the original patent. Thus, the rejection should be withdrawn.

Selecting According to Intra/Inter Mode of the Currently Processed Block

The Examiner finds that the original claim 1 recites a step of "selecting" variable length coding tables according to the intra/inter mode information "of the currently processed block." The Examiner finds that claim 8 recites only "selecting" one of said plurality of variable-length coating tables according to inter/intra mode information. It does not claim "a currently processed block." The Examiner finds that this subject matter has been surrendered, on the basis of arguments made with regard to independent claim 1 in the Amendment filed on September 2, 1997.

This issue does not originate from the applicant's argument and interview with the Examiner in order to secure allowability. The limitation of Claim 2, which included the "selecting according to intra/inter mode" language, was incorporated into Claim 1 in the Amendment filed on September 2, 1997 in order to provide clarity to the claim and not to overcome the prior art. In other words. The claim feature already existed in Claim 1 and thus the Applicants did not add this limitation to Claim 1. Moreover, the Applicants did not add such a feature in order to overcome the prior art rejection. Finally, the precise limitation did exist in claim 2 and, as such, this feature clearly is in the claim as originally presented. The numbering of the claims in this regard is inconsequential.

On the basis of the recent opinion of the Board in *In re Eggert*, it is clear from the prosecution history that Applicant did not amend or argue the feature of "selecting according to intra/inter mode of the currently processed block" to overcome the prior art. Another adequate basis existed. Thus, this feature was not surrendered by the Applicants, and certainly was not surrendered for purposes of patentability. Accordingly, as to this feature, the claim is broader only in aspects unrelated to the rejection in the original patent. Thus, the rejection should be withdrawn.

Claim Rejections - 35 U.S.C. § 102

Claim 8 is rejected under 35 U.S.C. §102(e) as being anticipated by Kato (5,559,557). This rejection is traversed for at least the following reasons.

In framing the rejection, the Examiner finds in Kato an adaptive variable length coding method (Figs. 7 and 17) in which quantized orthogonal transform coefficients ("quantized DCT coefficients") are scanned in a predetermined pattern, particularly "in a zig-zag manner", as disclosed at col. 13, line 4. The coefficients are then variable length coded (col. 6, line 10) in a coding system for image data (col. 6, line 25). The Examiner finds the step of "setting a plurality of variable length coding tables," with reference to blocks 704 and 707 showing three tables as illustrated in Figs. 9A-9C. The Examiner also looks to the use of table modifier 706 and tables 707 for a "setting" of different tables. The Examiner also finds the step of "selecting" one of the plurality of variable length coding tables according to intra/inter mode information, with reference to Figs. 17 and 709. The Examiner provides a detailed explanation of how this teaching would apply when block 709 sets a switch to the "B" position for "intra" mode image information and "A" for the inter mode image information, and how different tables are utilized. Finally, the Examiner points to a teaching of "variable length coding" the quantized orthogonal transform coefficients, as disclosed in Fig. 17 with data presented at 732.

Applicants respectfully submit that the Examiner's analysis is inadequate to support anticipation.

Referring to Figure 17 of Kato (5,559,557), the VLC tables that are allegedly disclosed can be used variably according to an intra/inter mode (71.0) and a scanning position (DC/AC Separator). However, Kato does not teach a technology of using a quantization step size, which is an expressly claimed feature of the present invention. The Examiner alleges that the "intra.dc_precision" of Kato is identical to the quantization step size of the present invention. This assertion is overly broad and simply erroneous in the context of the invention.

In MPEG technology, the quantization step size is completely different from the "intra_dc_precision" parameter. One such difference relates to the application of the two variables to AC and DC components, respectively. In particular, referring to Figure 15 of the present invention, S18 corresponds to a quantization step size for an AC component. Specifically, a quantization step size is used to quantize AC components of both inter blocks and intra blocks.

By contrast, Kato does not use a quantization step size but uses an "intra_dc_precision." However, the "intra_dc_precision" parameter cited by the Examiner corresponds to a quantization factor for a DC component which corresponds to S26. That is, the "intra_dc_precision" parameter is used to quantize only DC components of only intra blocks.

A further distinction has to do with variability of size. In general, a quantization step size is used for AC components which occupy most of the DCT coefficients (63 of 64 coefficients). A quantization step size for AC components has a different value for each and every block (or macroblock). By contrast, an "intra_dc_precision" has an identical value in a frame (or a picture) (see Column 8, Line 41, and Figures 10A and 10B). That is, the "intra_dc_precision" is a quantization parameter which is applied to DC components of all blocks in a frame (or a picture).

Yet another difference is in the use of tables. The present invention selects one of a plurality of tables in doing VLC of AC components. Specifically, the present invention uses a quantization step size in order to select one of a plurality of different VLC tables. By contrast, Kato does not select one of a plurality of different tables in doing VLC of DC components, using "intra_dc_precision" information. Instead, Kato designates a plurality of select regions within a single VLC table and uses a code word in a particular region selected among the plurality of select regions using "intra_dc_precision" information, in doing VLC of DC components. That is, a portion of using the table is varied according to the "intra_dc_precision" information, which is well described in the specification of Kato (column 21, lines 56-65; Column 25, line 61 through column 26, line 4; and column 28, lines 41-55).

In Figures 9A-9C of Kato, Figure 9C illustrates a table for VLC of DC chrominance, and tables of Figures 9A and 98 are used simultaneously for VLC of DC luminance. Figure 9A is a table for VLC of DC luminance component value and Figure 9.B is a table for VLC of size of the DC luminance component. That is, two tables are simultaneously used for VLC of a DC component, but one of two tables is not selected.

Clearly, Kato uses only intra/inter mode information and a scanning position in order to select a particular table among a plurality of VLC tables, but does not use a quantization step size in order to select a VLC table. This is patentably different from the present invention.

On the basis of these several distinctions, the present invention cannot be anticipated.

Claim Rejections - 35 U.S.C. § 103

Claims 9 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Kato (5,559,557) and Kaneko et al (4,908,862). The Examiner provides a detailed explanation of how Kato and Kaneko are combined.

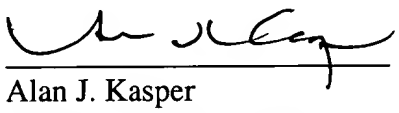
Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Kato (5,559,557) and Kaneko et al (4,908,862) as applied to claim 9 and further in view of Jung (UK 2,267,410 A). Again, the Examiner provides a detailed explanation of how this combination of references would render the subject matter of claim 11 unpatentable.

In both cases, neither Kaneko nor Jung remedy the deficiencies of Kato. In other words, there is no teaching or suggestion as to how (1) the "intra_dc_precision" parameter of Kato can be used as a quantization step size, given the differences in application for the "intra_dc_precision" parameter, specifically to DC components of intra blocks and not to AC components to intra blocks and inter blocks. Moreover, there is no teaching or suggestion in either secondary reference of the conversion of Kato's single table to a selected one of a plurality of tables. The differences are substantial and cannot be remedied by the inadequate disclosure of the secondary art.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Alan J. Kasper
Registration No. 25,426

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

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